

COMMONWEALTH OF VIRGINIA
STATE AIR POLLUTION CONTROL BOARD
REGULATIONS FOR THE CONTROL AND ABATEMENT OF AIR POLLUTION

9 VAC 5 CHAPTER 30.
AMBIENT AIR QUALITY STANDARDS.

9 VAC 5-30-10.	General.
9 VAC 5-30-20.	[Repealed].
9 VAC 5-30-30.	Sulfur oxides (sulfur dioxide).
9 VAC 5-30-40.	Carbon monoxide.
9 VAC 5-30-50.	Ozone (1-hour).
9 VAC 5-30-55.	Ozone (8-hour).
9 VAC 5-30-60.	Particulate matter (PM ₁₀).
9 VAC 5-30-65.	Particulate matter.
9 VAC 5-30-70.	Nitrogen dioxide.
9 VAC 5-30-80.	Lead.

9 VAC 5-30-10. General.

A. The provisions of this chapter, unless specified otherwise, shall apply throughout the Commonwealth of Virginia.

B. Ambient air quality standards are required to assure that ambient concentrations of air pollutants are consistent with established criteria and shall serve as the basis for effective and reasonable management of the air resources of the Commonwealth of Virginia.

C. Primary ambient air quality standards define levels of air quality which, allowing an adequate margin of safety, are necessary to protect the public health. Secondary ambient air quality standards define more stringent levels of air quality which are necessary to protect the public welfare from any known or anticipated adverse effects associated with the presence of air pollutants in the ambient air. At such time as additional pertinent information becomes available with respect to applicable air quality criteria, such information will be considered and the ambient air quality standards will be revised accordingly.

D. The absence of a specific ambient air quality standard shall not preclude action by the board to control pollutants to assure protection, safety, welfare and comfort of the people of the Commonwealth of Virginia.

E. Where applicable, all measurements of air quality shall be corrected to a reference temperature of 77 degrees Fahrenheit and to a reference pressure of 14.7 pounds per square inch absolute.

9 VAC 5-30-20. [Repealed].

9 VAC 5-30-30. Sulfur oxides (sulfur dioxide).

A. The primary ambient air quality standards are as follows:

1. 80 micrograms per cubic meter (0.030 parts per million) -- annual arithmetic mean not to be exceeded in a calendar year. The annual arithmetic mean shall be rounded to three decimal places (fractional parts equal to or greater than 0.0005 ppm shall be rounded up).

2. 365 micrograms per cubic meter (0.14 parts per million) -- maximum 24-hour concentration not to be exceeded more than once per calendar year. The 24-hour averages shall be determined from successive nonoverlapping 24-hour blocks starting at midnight each calendar day and shall be rounded to two decimal places (fractional parts equal to or greater than 0.005 ppm shall be rounded up).

B. The secondary ambient air quality standard is 1,300 micrograms per cubic meter (0.50 parts per million) -- maximum three-hour concentration not to be exceeded more than once per calendar year. The 3-hour averages shall be determined from successive nonoverlapping 3-hour blocks starting at midnight each calendar day and shall be rounded to 1 decimal place (fractional parts equal to or greater than 0.05 ppm shall be rounded up).

C. Sulfur dioxide shall be measured by the reference method described in Appendix A of 40 CFR Part 50, or other method designated as such, or by an equivalent method.

D. To demonstrate attainment of the primary standard, the annual arithmetic mean and the second-highest 24-hour averages must be based upon hourly data that are at least 75 percent complete in each calendar quarter. A 24-hour block average shall be considered valid if at least 75 percent of the hourly averages for the 24-hour period are available. In the event that only 18, 19, 20, 21, 22, or 23 hourly averages are available, the 24-hour block average shall be computed as the sum of the available hourly averages using 18, 19, and so on as the divisor. If fewer than 18 hourly averages are available, but the 24-hour average would exceed the level of the standard when zeros are substituted for the missing values, subject to the rounding rule of subdivision A 2 of this section, then this shall be considered a valid 24-hour average. In this case, the 24-hour block average shall be computed as the sum of the available hourly averages divided by 24.

E. To demonstrate attainment of the secondary standard, the second-highest 3-hour average must be based upon hourly data that are at least 75 percent complete in each calendar quarter. A 3-hour block average shall be considered valid only if all three hourly averages for the 3-hour period are available. If only one or two hourly averages are available, but the 3-hour average would exceed the level of the standard when zeros are substituted for the missing values, subject to the rounding rule of subsection B of this section, then this shall be considered a valid 3-hour average. In all cases, the 3-hour

block average shall be computed as the sum of the hourly averages divided by 3.

9 VAC 5-30-40. Carbon monoxide.

A. The primary ambient air quality standards are as follows:

1. Nine parts per million (10 milligrams per cubic meter) -- average eight-hour concentration not to be exceeded more than once per year.

2. 35 parts per million (40 milligrams per cubic meter) -- average one-hour concentration not to be exceeded more than once per year.

B. Carbon monoxide shall be measured by the reference method described in Appendix C of 40 CFR Part 50, or other method designated as such, or by an equivalent method.

C. An 8-hour average shall be considered valid if at least 75 percent of the hourly average for the 8-hour period are available. In the event that only six (or seven) hourly averages are available, the 8-hour average shall be computed on the basis of the hours available using six (or seven) as the divisor.

D. When summarizing data for comparison with the standards, averages shall be stated to one decimal place. Comparison of the data with the levels of the standards in parts per million shall be made in terms of integers with fractional parts of 0.5 or greater rounding up.

9 VAC 5-30-50. Ozone (1-hour).

A. The primary and secondary ambient air quality standard is 0.12 parts per million (235 micrograms per cubic meter).

B. Ozone shall be measured by the reference method described in Appendix D of 40 CFR Part 50, other method designated as such, or by an equivalent method.

C. The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 parts per million (235 micrograms per cubic meter) is equal to or less than one, as determined by Appendix H of 40 CFR Part 50.

D. The 1-hour ozone ambient air quality standard set forth in subsection A of this section shall no longer apply to an area after June 15, 2005.

9 VAC 5-30-55. Ozone (8-hour).

A. The primary and secondary ambient air quality standard is 0.08 parts per million, daily maximum 8-hour average.

B. Ozone shall be measured by the reference method described in Appendix D of 40 CFR Part 50, other method designated as such, or by an equivalent method.

C. The 8-hour primary and secondary ozone ambient air quality standards are met at an ambient air quality monitoring site when the average of the annual fourth-highest daily maximum 8-hour average ozone concentration is less than or equal to 0.08 ppm, as determined in accordance with Appendix I to 40 CFR Part 50.

9 VAC 5-30-60. Particulate matter (PM₁₀).

A. 1. The primary and secondary 24-hour ambient air quality standard is 150 micrograms per cubic meter -- 24-hour average concentration.

2. The standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 micrograms per cubic meter, as determined in accordance with Appendix K of 40 CFR Part 50, is equal to or less than one.

B. 1. The primary and secondary annual ambient air quality standard is 50 micrograms per cubic meter -- annual arithmetic mean.

2. The standard is attained when the expected annual arithmetic mean concentration, as determined in accordance with Appendix K of 40 CFR Part 50, is less than or equal to 50 micrograms per cubic meter.

C. For the purpose of determining attainment of the primary and secondary standards, particulate matter shall be measured in the ambient air as PM₁₀ (particles with an aerodynamic diameter less than or equal to a nominal 10 micrometers) by the reference method described in Appendix J of 40 CFR Part 50, or other method designated as such, or by an equivalent method.

9 VAC 5-30-65. Particulate matter.

A. The primary and secondary ambient air quality standards for particulate matter (PM_{2.5}) are:

1. 15.0 micrograms per cubic meter -- annual arithmetic mean concentration.

2. 65 micrograms per cubic meter -- 24-hour average concentration.

B. Particulate matter shall be measured in the ambient air as PM_{2.5} (particles with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers) by the reference method described in Appendix L of 40 CFR Part 50, or other method designated as such, or by equivalent method.

C. The annual primary and secondary PM_{2.5} standards are met when the annual arithmetic mean concentration, as determined in accordance with Appendix N of 40 CFR Part 50, is less than or equal to 15.0 micrograms per cubic meter.

D. The 24-hour primary and secondary PM_{2.5} standards are met when the 98th percentile 24-hour concentration, as determined in accordance with Appendix N of 40 CFR Part 50, is less than or equal to 65 micrograms per cubic meter.

E. The primary and secondary ambient air quality standards for particulate matter (PM₁₀) are:

1. 50 micrograms per cubic meter -- annual arithmetic mean concentration
2. 150 micrograms per cubic meter -- 24-hour average concentration.

F. Particulate matter shall be measured in the ambient air as PM₁₀ (particles with an aerodynamic diameter less than or equal to a nominal 10 micrometers) by the reference method described in Appendix M of 40 CFR Part 50, or other method designated as such, or by equivalent method.

G. The annual primary and secondary PM₁₀ standards are met when the annual arithmetic mean concentration, as determined in accordance with Appendix N of 40 CFR Part 50, is less than or equal to 50 micrograms per cubic meter.

H. The 24-hour primary and secondary PM₁₀ standards are met when the 99th percentile 24-hour concentration, as determined in accordance with Appendix N of 40 CFR Part 50, is less than or equal to 150 micrograms per cubic meter.

9 VAC 5-30-70. Nitrogen dioxide.

A. The primary and secondary ambient air quality standard is 0.053 parts per million (100 micrograms per cubic meter) -- annual arithmetic mean concentration.

B. Nitrogen dioxide shall be measured by the reference method described in Appendix F of 40 CFR Part 50, or other method designated as such, or by an equivalent method.

C. The standards are attained when the annual arithmetic mean concentration in a calendar year is less than or equal to 0.053 ppm, rounded to three decimal places (fractional parts equal to or greater than 0.0005 ppm must be rounded up). To demonstrate attainment, an annual mean must be based upon hourly data that are at least 75 percent complete or upon data derived from manual methods that are at least 75 percent complete for the scheduled sampling days in each calendar quarter.

9 VAC 5-30-80. Lead.

A. The primary and secondary ambient air quality standard is 1.5 micrograms per cubic meter, maximum arithmetic mean averaged over a calendar quarter.

B. Lead and its compounds shall be measured as elemental lead by the reference method based on Appendix G of 40 CFR Part 50, or other method designated as such, or by an equivalent method.

HISTORICAL NOTES:

Derived from: Part III of VR 120-01 (§ 120-03-01 through § 120-03-08)

Effective Date: March 17, 1972

Promulgated: March 17, 1972

Amended: February 3, 1974

Amended: December 20, 1974

Amended: August 9, 1975

Amended: December 10, 1976

Amended: October 6, 1978

Amended: August 3, 1979

Amended: December 5, 1980

Amended: January 1, 1985

Amended: January 1, 1988

Amended: April 1, 1999

Amended: September 8, 2004

REG\VAC\300